REMARKS/ARGUMENTS

Claims 1-21 are now pending. Claims 1, 3, 4, 6, and 13 have been amended. Claims 14-20 have been amended to reflect the correct numerals. Claim 21 has been added due to the amended numerals in claims 14-20. No new matter has been introduced thereby.

Claims 1-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Narayan et al. (4,181,538) in view of Wack et al. (6,818,459 B2). Applicants respectfully request reconsideration and allowance of the claims in light of the amendments and following remarks. The cited references , alone or in combination, fail to disclose or suggest each and every feature of the present method of monitoring low energy dose implanter using implanted monitor wafers as claimed. The method includes introducing a plurality of particles within a depth of a monitor silicon wafer. The plurality of particles causes the silicon material to be in an amorphous state within the depth of the monitor silicon wafer. The plurality of particles are silicon bearing species. A plurality of dopant particles are implanted to a selected depth of the monitor silicon wafer, which is already in the amorphous state. The amorphous state silicon traps the dopant particles. In contrast, the cited references, alone or in combination, do not show or suggest causing a silicon material to be in an amorphous state using a plurality of particles, and implanting dopant particles into the amorphous state in the manner claimed. The implantation of dopant impurities discussed in Narayan et al. (4,181,538) is performed on a single crystal silicon and not on a silicon wafer in the amorphous state as claimed. Accordingly, Narayan, et al. fails to show or suggest this claimed feature. Additionally, Wack, et al. is completely "silent" on this feature, as well.

Neither reference further shows or suggests that the monitor wafer is subjected to a thermal anneal process to activate the dopant particles. Sheet resistivity is measured on a implanted region of the monitor wafer to determine a dose of the dopant particles. At best, Wack et al. has been cited for the purpose of teaching sheet resistivity measurement in a separate tool, which still does not show or suggest the limitations of Narayan et al. Accordingly, claim 1 should be allowed for at least these reason. Claims 2-12, which depend from claim 1 should also be allowed for a similar rationale as discussed for claim 1.

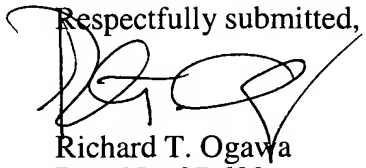
Applicants also assert that claim 13 is patentable over the cited reference, alone or in combination. That is, claim 13 recites a combination of elements including "introducing a plurality of particles within a depth of the material, whereupon the plurality of particles cause the crystalline material to be in an amorphous state, introducing a plurality of dopant particles into a selected depth of the crystalline material in the amorphous state", "the amorphous state trapping the dopant particles." As noted above and further emphasized, Narayan, et al. does not suggest or show these features. Even if Wack, et al. is combined with Narayan, et al, the claimed combination of features is still not shown or suggested. Accordingly, claim 13 should be patentable at least for these reasons. Claims 14-21, as well as the additional features therein, which depend from claim 13, should also be patentable for at least a similar rationale as discussed for claim 13. Accordingly, all claims are patentable for at least these reasons and others.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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